

## PATENT COOPERATION TREATY

PCT

20 JAN 2005

INTERNATIONAL PRELIMINARY EXAMINATION REPORT  
(PCT Article 36 and Rule 70)

REC'D 28 OCT 2004

Applicant's or agent's file reference KP/8204INT	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB 03/03229	International filing date (day/month/year) 18.07.2003	Priority date (day/month/year) 20.07.2002
International Patent Classification (IPC) or both national classification and IPC A62C2/06		
Applicant KOVACS, Laurence Keith et Al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
  
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
 

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 8 sheets.
  
3. This report contains indications relating to the following items:
  - I  Basis of the opinion
  - II  Priority
  - III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV  Lack of unity of invention
  - V  Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI  Certain documents cited
  - VII  Certain defects in the international application
  - VIII  Certain observations on the international application

Date of submission of the demand  19.02.2004	Date of completion of this report  27.10.2004
Name and mailing address of the International preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Schut, T Telephone No. +49 89 2399-8970

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB 03/03229

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

4, 6-12                          as originally filed  
1-3, 5                          received on 09.10.2004 with letter of 07.10.2004

**Claims, Numbers**

1-30                          received on 09.10.2004 with letter of 07.10.2004

**Drawings, Figures**

1-5                          as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description,        pages:
- the claims,              Nos.:              31-34
- the drawings,            sheets:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

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5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

the entire international application,

claims Nos. 29,30

because:

the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

no international search report has been established for the said claims Nos. 29,30

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

the written form has not been furnished or does not comply with the Standard.

the computer readable form has not been furnished or does not comply with the Standard.

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N) Yes: Claims 1-28  
No: Claims

Inventive step (IS) Yes: Claims 1-28  
No: Claims

Industrial applicability (IA) Yes: Claims 1-28  
No: Claims

2. Citations and explanations

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB 03/03229

**Re Item V**      **Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**Claim 1**

US-A-5 887 396 discloses an assembly according to the preamble of claim 1.

The features of the characterising portion allow adjustment of the length (axially displaceable) of the retention means. This is to provide compensation for different mounting heights.

In US-A-5 887 396 this problem has been solved by allowing one end of the retention means to be bent.

The solution as defined in claim 1 has not been disclosed in any of the documents cited in the search report.

Assembly

The present invention relates to assemblies and more particularly to lighting assemblies of the so-called downlighter variety or embedded loud speakers.

In view of the heat generating capacity of lighting assemblies, they are a potential source of fires. However, a conventional suspended lighting assembly extending from a mounting rose in the ceiling is relatively safe. More recently use of downlighter lighter assemblies has become more fashionable as well as convenient in terms of allowing lower acceptable roof heights etc. Unfortunately, such downlighter assemblies require provision of a relatively wide aperture in the ceiling and/or roof space in order to accommodate the lighting fitting. Such apertures render it difficult to contain a fire in a room or for that matter a fire generated by failure of the light fitting itself. It will be understood that an aperture provides a pathway through which smoke and flames can pass. Ideally a closed barrier should be presented to a fire in order to at least contain it and preferably smother the fire through denial of oxygen.

In accordance with the present invention there is provided an assembly comprising an expansion combination comprising an intumescent layer and a backer member retained by retention means for expansion in use, when subjected to a predetermined temperature, towards an opening in a panel and/or cover in order to close the opening whereby the expansion combination is secured by one part of the retention means and the cover and/or panel secured by an other part of the retention means, the assembly characterized in that the one part of the retention means is axially displaceable in relation to the other part of the retention means for altering of the effective length of the assembly in the direction of expansion in use of the intumescent material towards the opening or cover.

Preferably, the expansion combination includes a pocket secured to the backer member and extending downward towards the opening.

Preferably, the expansion combination includes a cover layer to confine and/or protect the intumescent layer.

Typically, the backer member is relatively resilient and/or stable to provide a base for projecting expansion of the intumescent layer. Possibly, the backer member is formed from a fabric, paper or plastics material.

Normally, the type and/or thickness of the intumescent material in the intumescent layer depends upon the distance between the position at which the expansion combination is retained and the opening. Possibly, more than one expansion combination is provided in the assembly.

Preferably, the cover layer is perishable and/or flexible and/or displaceable in order not to inhibit expansion of the intumescent layer towards the opening or closure of the opening.

Normally, the intumescent and the backer layer of the expansion combination, along with the cover layer when provided, are secured together by securing means. Typically, the securing means may be perishable and/or rupturable stitching or adhesive or displaceable clips.

Preferably, the retention means comprises a down member which retains the expansion combination above the opening. Typically, the down member includes a ledge for the expansion combination. Normally, the ledge is provided by a bend or kink in the down member.

Preferably, the retention means includes an up member to secure the panel and/or cover.

Normally, adjustment means is provided between the down member and the up members to allow adjustment of the length of the retention means. Typically, the adjustment means comprises a screw thread bolt. Normally, a bias, such as a compression or expansion spring, is provided between the up member and the down member. Typically the bolt extends through the bias. Advantageously, the juxtaposed or overlapping ends are perpendicular to their

respective up member and down member.

Advantageously, the adjustment means can be adjusted dependent upon a depth of thickness of a ceiling or structure into which the assembly is to be mounted. Generally, the retention means will be made from a metal or plastics material.

Normally, more than one retention means are provided to act in cooperation for the assembly. Generally, the juxtaposed or overlapping ends are flats upon which the adjustment means acts.

Typically, a cover end is secured to the cover or panel by securing means such as a screw fastening or pot rivet or other mechanical fixing or a recess or by ledge engagement. Possibly, the securing means will release when subjected to a temperature of a predetermined value such as during a fire.

Normally, the adjustment means includes lock means to lock the desired adjustment of the adjustment means.

Typically, the retention means will cooperate with any ventilation opening in a cover to facilitate heat dissipation caused by normal operation of a lighting element.

appropriate to a cover 8 for an opening 9 in the ceiling 2. Typically, the cover 8 may also include ventilation openings (not shown) along with a ventilation gap between the cover 8 and the opening 9 such that the heat generating lighting elements or other electrical device located within the cavity 10 of the assembly 1 does not overheat or present a fire hazard. It will also be understood that the aperture or cavity 7 may also be open to allow heat dissipation radially and horizontally into the space between the ceiling 2 and support structure 3. However, in such circumstances, in accordance with the present invention a pocket is normally provided around the assembly between the ceiling panel 2 and the support structure 3.

In accordance with the present invention an adjustment mechanism 6 is provided between the retention members 4, 5. Generally, the gap 11 between the ceiling 2 and support structure 3 may be different in specific installation locations for the assembly 1. Thus, to achieve appropriate assembly it is necessary to provide for at least lengthways adjustment of the retention members 4, 5 combination length.

Fig. 2 illustrates one embodiment of an adjustment mechanism 6 in accordance with the present invention. Essentially, the respective down member 4 and up member 5 present juxtaposed or overlapping end flats 21, 22. Thus, a screw thread rod or bolt 23 which extends through apertures (not shown) in the flats 21, 22 can be adjusted and so the combination length of the combination of members 4, 5 varied to that required for a particular installation. A bias is provided between the flats 21, 22 in order to ensure retention of the desired spacing and so combination length of the members 4, 5. This bias takes the form of a compression or extension spring 24 which acts to push the flats 21, 22 diametrically away from each other against locking members 25, 26 secured at each end of the rod or bolt 23.

It will be appreciated that by use of the bias 24 temporarily the up member 5 may be pulled or displaced downwards in the direction of arrow head A against the bias 24 such that, with a cover end 27 (Fig. 1) only secured to the cover 8, it may be possible to displace that cover 8 in order to gain access to the

Claims

1. An assembly comprising an expansion combination comprising an intumescent layer and a backer member retained by retention means for expansion in use, when subjected to a predetermined temperature, towards an opening in a panel and/or cover in order to close the opening whereby the expansion combination is secured by one part of the retention means and the cover and/or panel secured by an other part of the retention means, the assembly characterized in that the one part of the retention means is axially displaceable in relation to the other part of the retention means for altering of the effective length of the assembly in the direction of expansion in use of the intumescent material towards the opening or cover.
2. An assembly as claimed in claim 1 wherein the expansion combination comprises a pocket secured to the backer member and extending downwards towards the opening.
3. An assembly as claimed in claim 1 or claim 2 wherein the expansion combination includes a cover layer to confine and/or protect the intumescent layer.
4. An assembly as claimed in any of claims 1, 2 or 3 wherein the backer member is relatively resilient and/or stable to provide a base for projection expansion of the intumescent layer.
5. An assembly as claimed in any preceding claim wherein the backer member is formed from a fabric, paper or plastics material.
6. An assembly as claimed in any preceding claim wherein the type and/or thickness of the intumescent material in the intumescent layer depends upon the distance between the position at which the expansion combination is retained and the opening.
7. An assembly as claimed in any preceding claim wherein the assembly incorporates more than one expansion combination.

8. An assembly as claimed in any preceding claim wherein the cover layer is perishable and/or flexible and/or displaceable in order not to inhibit expansion of the intumescent layer towards the opening or closure of the opening.
9. An assembly as claimed in any preceding claim wherein the intumescent layer and the backer layer of the expansion combination, along with the cover layer when provided are secured together by securing means.
10. An assembly as claimed in claim 9 wherein the securing means IS perishable and/or rupturable stitching or adhesive or displaceable clips.
11. An assembly as claimed in any preceding claim wherein the retention means comprises a down member which retains the expansion combination above the opening.
12. An assembly as claimed in claim 11 wherein the d9wn member includes a ledge for the expansion combination.
13. An assembly as claimed in claim 12 wherein the ledge is provided by a bend or kink in the down member.
14. An assembly as claimed in any preceding claim wherein the retention means includes an up member to secure the panel and/or cover layer when provided.
15. An assembly as claimed in claim 14 when dependent upon claim 11 wherein the down member and the up member include respectively juxtaposed or overlapping ends to form when secured together the retention means.
16. An assembly as claimed in claim 14 or 15 wherein adjustment means is provided between the down member and the up member to allow adjustment of the length of the retention means for altering the effective length of the assembly.

17. An assembly as claimed in claim 16 wherein the adjustment means comprises a screwthread bolt.
18. An assembly as claimed in any of claims 14 to 17 wherein a bias, such as a compression or expansion spring, is provided between the up member and the down member.
19. An assembly as claimed in claim 17 or claim 18 when dependent upon claim 17 wherein the bolt extends through the bias.
20. An assembly as claimed in any of claims 14 to 19 wherein the respective up member and down member have juxtaposed or overlapping ends which are substantially perpendicular.
21. An assembly as claimed in claim 16 and any claim dependent there on wherein the adjustment means can be adjusted dependent upon a depth of thickness of a ceiling or structure into which the assembly is to be mounted.
22. An assembly as claimed in any preceding claim wherein the retention means is made from a metal or plastics material.
23. An assembly as claimed in any preceding claim wherein the assembly incorporates more than one retention means to act in cooperation.
24. An assembly as claimed in claim 15 and any claim dependent thereon wherein the juxtaposed or overlapping ends are flats upon which the adjustment means acts in use.
25. An assembly as claimed in any preceding claim wherein a cover end is secured to the cover or panel by securing means such as a screw fastening or pop rivet or other mechanical fixing or a recess or by ledge engagement.
26. An assembly as claimed in Claim 16 and any claim dependent thereon wherein the

adjustment means includes lock means to lock the desired adjustment of the adjustment means.

27. An assembly as claimed in any of claims 23 to 29 wherein the retention means cooperates with a ventilation opening in a cover to facilitate heat dissipation caused by normal operation of a lighting element.

28. An assembly as claimed in any preceding claim wherein the opening which is closed by the expansion combination is one or more ventilation openings of a cover and/or an aperture in a cavity to accommodate the assembly.

29. An assembly substantially as hereinbefore described with reference to the accompanying drawings.

30. A mounting arrangement substantially as hereinbefore described with reference to the accompanying drawings.

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